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HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133				
			EXAMINER	
			SWEARINGEN, JEFFREY R	
			ART UNIT	PAPER NUMBER
			2145	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/918,312

Applicant(s)

STERN ET AL.

Examiner

Jeffrey R. Swearingen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date multiple.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. The effective filing date for this application is 7/31/2000.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 1, item 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.
4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title is Data Mining System. The title is not indicative of the web crawling aspect, nor of the e-mail generation aspect. Data Mining is a broad field, and the title

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does not show the unique aspects of the present invention, nor does it distinguish the present invention from methods and systems of data mining that are present in the prior art.

***Requirement for Information***

5. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

6. The information is required to extend the domain of search for prior art. Limited amounts of art related to the claimed subject matter are available within the Office, and are generally found in class 709 and subclasses 206, which describe email. A broader range of art to search is necessary to establish the level of knowledge of those of ordinary skill in the claimed subject matter art of using data mining to generate unsolicited e-mail and/or spam.

7. The information is required to document the level of skill and knowledge in the art of data and/or text mining by using a web crawler or network agent, the level of skill or knowledge in the art of deducing and constructing potential e-mail addresses, and the level of skill or knowledge in the art of considering statistical rarity of title and person's name in determining whether to combine the two records.

8. The information is required to identify products and services embodying the disclosed subject matter of a data mining system that utilizes spam and/or e-mail generation techniques and identify the properties of similar products and services found in the prior art.

9. In response to this requirement, please provide the title, citation and copy of each publication that is a source used for the description of the prior art in the disclosure. For each publication, please provide a concise explanation of that publication's contribution to the description of the prior art. Please additionally provide a concise explanation of each publication previously disclosed in the Information Disclosure Statement and their respective contributions to the description of the prior art.

10. In response to this requirement, please additionally provide the title, citation and copy of each publication that any of the applicants relied upon to develop the disclosed subject matter that describes the applicant's invention, particularly as to developing the data mining system, the email generation

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system, the email address generator, the distributor to control plural crawlers, the extractor responsive to the crawler retrieved pages, the integrator for resolving duplicate information and combining related information in the database, the post-processor for analyzing contents of the database and generating missing information. For each publication, please provide a concise explanation of the reliance placed on that publication in the development of the disclosed subject matter.

11. In further response to this requirement, please provide the title, citation and copy of each publication that any of the applicants relied upon to draft the claimed subject matter, including but not limited to claims dealing with generating email addresses from extracted data. For each publication, please provide a concise explanation of the reliance placed on that publication in distinguishing the claimed subject matter from the prior art.

#### ***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. **Claims 1 and 6** rejected under 35 U.S.C. 102(e) as being anticipated by Henrick et al. (U.S. Patent No. 6,377,936).

14. Regarding **claim 1**, Henrick discloses *providing a database storing information regarding people, the database including for each person at least name of the person and the name of respective employer for which the person is currently employed* [Henrick discloses a customer mailing list. See Henrick, column 3, lines 53-54.]; *and using digital processor means couple to the database, automatically generating e-mail address of a subject person named in the database, the e-mail address being with*

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*respect to a respective organization named in the database for the subject person* [Henrick discloses generating an e-mail message. Examiner considers generating an e-mail address to be part of generating an e-mail message. See Henrick, column 3, line 54]. By this rationale **claim 1** is rejected.

15. Regarding **claim 6**, the limitations of this claim are substantially the same as those in claim 1. Therefore the same rationale for rejecting claim 1 is used to reject claim 6. By this rationale **claim 6** is rejected.

16. **Claim 11** rejected under 35 U.S.C. 102(e) as being anticipated by Knight et al. (U.S. Patent No. 6,493,703).

17. Regarding **claim 11**, Knight discloses a computer automated system for mining from a global computer network information on people and organizations comprising: a plurality of automated crawlers for traversing sites of a global computer network and retrieving pages that contain information of interest; a distributor coupled to the crawlers for controlling crawler processing; an extractor responsive to the crawler retrieved pages and extracting information about people and organizations therefrom; the extracted information being stored in a database; an integrator coupled to the database for resolving duplicate information and combining related information in the database; and a post-processor coupled to the database for analyzing contents of the database and generating missing information therefrom. [Knight discloses searching a bulletin board system with software robots (plurality of automatic crawlers, column 5, lines 45-49), extracting information (column 5, lines 6-10), storing the information in a database (column 6, lines 40-59), and creates classifications of messages in logical groupings based on filters (combining related information and analyzing contents of the database and generating missing information, column 10, lines 1-53). By this rationale **claim 11** is rejected.

18. Regarding **claim 17**, the limitations of this claim are substantially the same as those of claim 11. Therefore the rationale used to reject claim 11 is used to reject claim 17. By this rationale **claim 17** is rejected.

***Claim Rejections - 35 USC § 103***

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19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. **Claims 4 and 9** rejected under 35 U.S.C. 103(a) as being unpatentable over Henrick in view of Mills (Australian Patent Abstract No. AU-A-53031/98).

21. Regarding **claim 4**, Henrick is applied as in claim 1. Henrick fails to disclose *using crawler means, automatically extracting information regarding people and / or organizations from sites of a global computer network and storing the extracted information in the database, such that the database is formed by automated means*.

22. However, Mills discloses *using crawler means, automatically extracting information regarding people and / or organizations from sites of a global computer network and storing the extracted information in the database, such that the database is formed by automated means*. [See Mills, page 8, lines 38-49].

23. It would have been obvious to one of ordinary skill in the networking art at the time of the invention to combine the teachings of Mills with the teachings of Henrick for the purpose of improving the method of building a searchable database of contact information. [See Mills, page 6, lines 25-30].

Henrick provides motivation for the combination by stating that data mining is used to obtain information about network users. [See Henrick, column 5, lines 19-23] By this rationale **claim 4** is rejected.

24. Regarding **claim 9**, the limitations of this claim are substantially the same as those in claim 4. Therefore the same rationale for rejecting claim 4 is used to reject claim 9. By this rationale **claim 9** is rejected.

25. **Claims 5 and 10** rejected under 35 U.S.C. 103(a) as being unpatentable over Henrick and Mills as applied to claim 4 and in view of Barroux (U.S. Patent No. 5,923,850).

26. Regarding **claim 5**, Henrick and Mills are applied as in claim 4. Henrick and Mills fail to disclose *employing a multiplicity of crawlers under control of a distributor*.

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27. However, Barroux discloses *employing a multiplicity of crawlers under control of a distributor*.

[Barroux discloses an administrative database and a task scheduler that schedules discovery tasks to be executed on the network. Examiner considers discovery tasks to include crawlers. Examiner considers task scheduler to be a distributor. See Barroux, column 3, lines 64-67. See Barroux, column 3, lines 41-52. See Barroux, column 4, lines 54-60.]

28. It would have been obvious to one of ordinary skill in the networking art at the time of the invention to combine the teachings of Barroux with the teachings of Henrick and Mills for the purpose of tracking changes over time in information collected by network agents. [See Barroux, column 1, lines 50-56]. Henrick provides motivation for the combination by stating that data mining is used to obtain information about network users. [See Henrick, column 5, lines 19-23] Mills further provides motivation for the combination by stating that indexes [databases] are often created by use of web crawlers and that many relevant pages are missed. [See Mills, page 2, line 35 – page 3, line 19]. By this rationale **claim 5** is rejected.

29. Regarding **claim 10**, the limitations of this claim are substantially the same as those in claim 5. Therefore the same rationale for rejecting claim 5 is used to reject claim 10. By this rationale **claim 10** is rejected.

30. **Claims 2-3 and 7-8** rejected under 35 U.S.C. 103(a) as being unpatentable over Henrick and Biliris et al. (U.S. Pub. No. 2001/0009017, hereafter referred to as Biliris.)

31. Regarding **claim 2**, Henrick is applied as in claim 1. Henrick fails to disclose *obtaining a working e-mail address to the respective organization, the working e-mail address not being the e-mail address of the subject person; deducing from the working e-mail address, format of e-mail addresses to the respective organization; using the deduced information, constructing potential e-mail addresses for the subject person; and verifying each constructed potential e-mail address by testing each, such that at least one verified constructed potential e-mail address provides a business e-mail address of the subject person*.

32. However, Biliris discloses receiving a message from a sender system with a declarative address [obtaining a working e-mail address to the respective organization, the working e-mail address not being



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*the e-mail address of the subject person]* and resolving the declarative address into messaging addresses by use of a database query on stored information [*deducing from the working e-mail addresses, format of e-mail addresses to the respective organization and using the deduced information, constructing potential e-mail addresses for the subject person*]. Biliris then transmits the messaging address(es) to the messaging server, which transmits the message to the addressed recipients [*verifying each constructed potential e-mail address by testing each, such that at least one verified constructed potential e-mail address provides a business e-mail address of the subject person*]. [See Biliris, page 1, paragraphs 0009-0011. See Biliris, page 2, paragraph 0024.]

33. It would have been obvious to one of ordinary skill in the networking art at the time of the invention to combine the teachings of Henrick and Biliris, for the purpose of sending messages to recipients without an explicitly enumerated mailing list. [See Biliris, page 1, paragraph 0009.] Henrick gives motivation for the combination of teachings by stating that users who might be interested in receiving information are reluctant to provide information to businesses. [See Henrick, column 1, lines 23-27.] By this rationale **claim 2** is rejected.

34. Regarding **claim 3**, Henrick and Biliris are applied as in claim 2. Biliris further discloses using logical combinations of filtered directory information and mailing lists to specify a list of e-mail recipients [*using predefined common email address formats*, see Biliris, page 3, paragraph 0033.] By this rationale **claim 3** is rejected.

35. Regarding **claim 7**, the limitations of this claim are substantially the same as those in claim 2. Therefore the same rationale for rejecting claim 2 is used to reject claim 7. By this rationale **claim 7** is rejected.

36. Regarding **claim 8**, the limitations of this claim are substantially the same as those in claim 3. Therefore the same rationale for rejecting claim 3 is used to reject claim 8. By this rationale **claim 8** is rejected.

37. **Claim 12** rejected under 35 U.S.C. 103(a) as being unpatentable over Knight and Feridun et al. (U.S. Patent No. 6,336,139).

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38. Regarding **claim 12**, Knight is applied as in claim 11. Knight fails to disclose combining database records of information.

39. However, Feridun discloses aggregating data collected by a network agent [combining database records collected by a crawler, see Feridun, column 12, lines 37-40].

40. It would have been obvious to one of ordinary skill in the networking art at the time of the invention to combine the teachings of Knight and Feridun for the purpose of detecting status changes in monitored objects (a person, see Feridun, column 2, lines 1-3.). Knight gives motivation for the combination by stating that not distinguishing between subject areas (changes in a person) results in frustration to the user. [See Knight, column 9, lines 45-54.] By this rationale **claim 12** is rejected.

41. Regarding **claim 13**, Knight and Feridun are applied as in claim 12. Knight further discloses a prioritization scheme utilizing frequency of occurrence of a subject category (statistical rarity of title and person's name, see Knight, column 6, line 60 – column 7, line 6). By this rationale **claim 13** is rejected.

42. Regarding **claim 18**, the limitations of this claim are substantially the same as those in claim 12. Therefore the rationale used to reject claim 12 is used to reject claim 18. By this rationale **claim 18** is rejected.

43. Regarding **claim 19**, the limitations of this claim are substantially the same as those in claim 12. Feridun deals with aggregating data between duplicate records. The name and organization name and title all fall into the general category of data in records, and therefore Examiner considers it to have little patentable weight when considering finding novelty in the claimed invention as compared to Feridun.

44. Regarding **claim 20**, the limitations of this claim are substantially the same as those in claim 13. Therefore the rationale used to reject claim 13 is used to reject claim 20. By this rationale **claim 20** is rejected.

45. **Claim 14** rejected under 35 U.S.C. 103(a) as being unpatentable over Knight and Henrick.

46. Regarding **claim 14**, Knight is applied as in claim 11. Knight fails to disclose generating an e-mail address.

47. However, Henrick discloses generating an e-mail message. Examiner considers generating an e-mail address to be part of generating an e-mail message. See Henrick, column 3, line 54.

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48. It would be obvious to one of ordinary skill in the networking art at the time of the invention to combine the teachings of Knight and Henrick for the purpose of sending e-mail by use of data mining. [See Henrick, column 1, lines 39-55.] Knight gives motivation for the combination by stating that information is gathered that is of interest to users, and that the gathered information can be transmitted to a user in the form of an electronic message. [See Knight, column 5, lines 45-67.] By this rationale **claim 14** is rejected.

49. Regarding **claim 21**, the limitations of this claim are substantially the same as those in claim 14. Therefore the rationale for rejecting claim 14 is used to reject claim 21. By this rationale **claim 21** is rejected.

50. **Claims 15-16, 22-23** rejected under 35 U.S.C. 103(a) as being unpatentable over Knight, Henrick and Biliris.

51. Regarding **claim 15**, Knight and Henrick are applied as in claim 14. Knight and Henrick fail to disclose *obtaining a working e-mail address to the respective organization, the working e-mail address not being the e-mail address of the subject person; deducing from the working e-mail address, format of e-mail addresses to the respective organization; using the deduced information, constructing potential e-mail addresses for the subject person; and verifying each constructed potential e-mail address by testing each, such that at least one verified constructed potential e-mail address provides a business e-mail address of the subject person.*

52. However, Biliris discloses receiving a message from a sender system with a declarative address [*obtaining a working e-mail address to the respective organization, the working e-mail address not being the e-mail address of the subject person*] and resolving the declarative address into messaging addresses by use of a database query on stored information [*deducing from the working e-mail address, format of e-mail addresses to the respective organization and using the deduced information, constructing potential e-mail addresses for the subject person*]. Biliris then transmits the messaging address(es) to the messaging server, which transmits the message to the addressed recipients [*verifying each constructed potential e-mail address by testing each, such that at least one verified constructed potential e-mail*

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*address provides a business e-mail address of the subject person*]. [See Biliris, page 1, paragraphs 0009-0011. See Biliris, page 2, paragraph 0024.]

53. It would have been obvious to one of ordinary skill in the networking art at the time of the invention to combine the teachings of Knight, Henrick and Biliris, for the purpose of sending messages to recipients without an explicitly enumerated mailing list. [See Biliris, page 1, paragraph 0009.] Henrick gives motivation for the combination of teachings by stating that users who might be interested in receiving information are reluctant to provide information to businesses. [See Henrick, column 1, lines 23-27.] By this rationale **claim 15** is rejected.

54. Regarding **claim 16**, Knight, Henrick and Biliris are applied as in claim 2. Biliris further discloses using logical combinations of filtered directory information and mailing lists to specify a list of e-mail recipients [*using predefined common email address formats*, see Biliris, page 3, paragraph 0033.] By this rationale **claim 16** is rejected.

55. Regarding **claim 22**, the limitations of this claim are substantially the same as the limitations of claim 15. Therefore the rationale used to reject claim 15 is used to reject claim 22. By this rationale **claim 22** is rejected.

56. Regarding **claim 23**, the limitations of this claim are substantially the same as the limitations of claim 16. Therefore the rationale used to reject claim 16 is used to reject claim 23. By this rationale **claim 23** is rejected.

### **Conclusion**

57. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Spam! Cranor and LaMacchia, Communications of the ACM, August 1998.

Data Clustering: A Review. Jain, A.K. et al. ACM Computing Surveys, Vol. 31, No. 3, September 1999. pp. 264-323.

Hall, Robert J. "How to Avoid Unwanted Email." Communications of the ACM, March 1998. Vol. 41, No. 3. pp. 88-95.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Harvey can be reached on (571) 272-3896. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffrey R. Swearingen  
Examiner  
Art Unit 2145

JRS

  
JACK B. HARVEY  
SUPERVISORY PATENT EXAMINER